# DEPARTMENT OF ECE

# NEWSLETTER

## SEPTEMBER-OCTOBER 2023

**Faculty Members:**

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Professor & HOD

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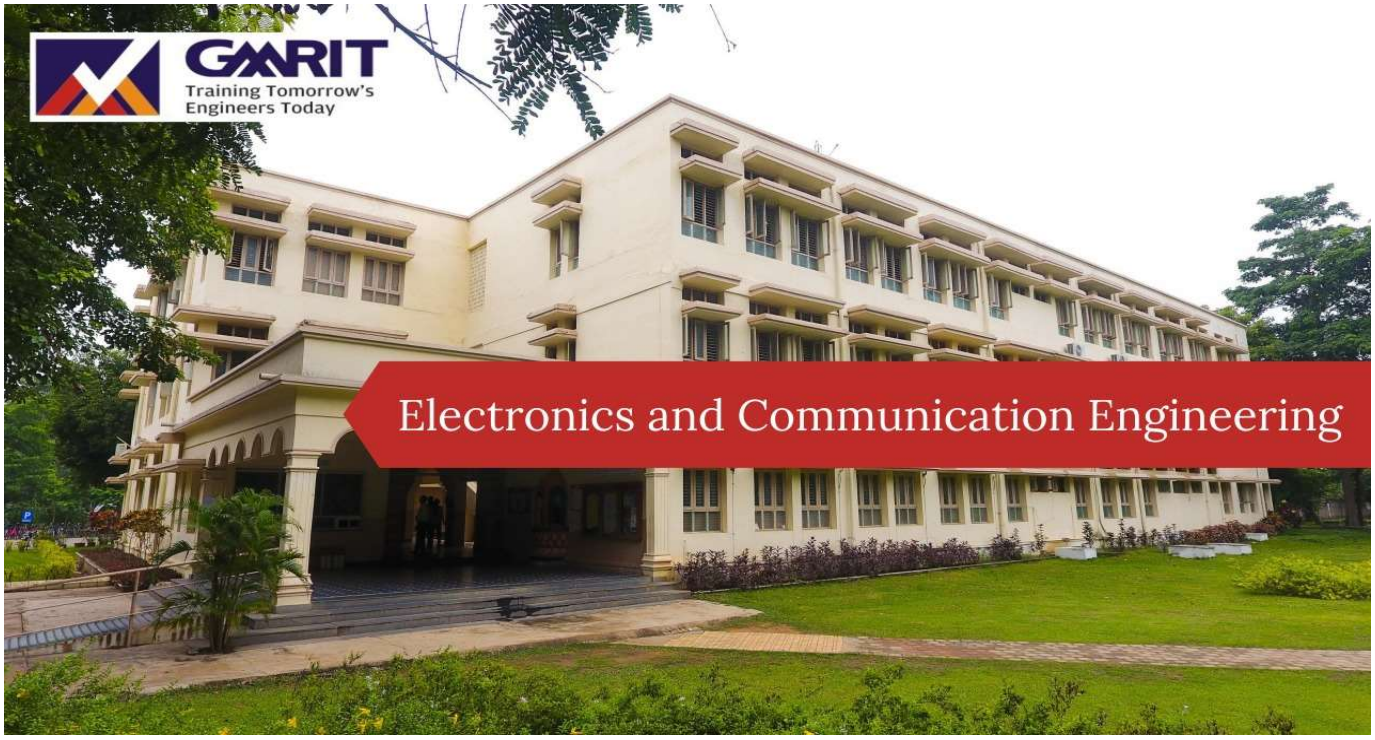
# 1. ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT

## 1.1. OVERVIEW

Electronics & Communication Engineering Department provides students with a solid scientific/technical background and research capabilities in the design, development and manufacture of electronic devices and systems used in a wide spectrum of applications. The applications spans from household appliances to sophisticated satellite communication, from electronic ignition to neural networks and signal processing chips. The Department integrates academic discipline with project-based engineering applications, classroom learning and theory with real world experiences. Annual intake of this Department is 180 students.




## 1.2. VISION

To be a nationally preferred department of learning for students and teachers alike, with dual commitment to research and serving students in an atmosphere of innovation and critical thinking.

## 1.3. MISSION

To provide high-quality education in Electronics & Communication Engineering to prepare the graduates for a rewarding career in Electronics & Communication Engineering and related industries, in tune with evolving needs of the industry.

To prepare the students to become thinking professionals and good citizens who would apply their knowledge critically and innovatively to solve professional and social problems.

## 1.4. PROGRAMME EDUCATIONAL OBJECTIVES (PEO'S)

1. Embrace technical and professional skills with the spirit of learning, critical thinking while acquiring the fundamentals in science and technology. (PEO1)
2. Contemplate real life problems, design and develop novel products that are technically viable, economically feasible and socially acceptable. (PEO2)
3. Encompass ethical values, exhibit soft skills in management & teamwork acquiring leadership qualities. (PEO3)

## 1.5. PROGRAMME OUTCOMES (PO'S)

At the end of the Programme, a graduate will be able to

PO 1. Apply the knowledge of basic sciences and fundamental engineering concepts in solving engineering problems.

PO 2. Identify and define engineering problems, conduct experiments and investigate to analyze and interpret data to arrive at substantial conclusions.

PO 3. Propose an appropriate solution for engineering problems complying with functional constraints such as economic, environmental, societal, ethical, safety and sustainability.

PO 4. Perform investigations, design and conduct experiments, analyze and interpret the results to provide valid conclusions.

PO 5. Select/develop and apply appropriate techniques and IT tools for the design & analysis of the systems.

PO 6. Give reasoning and assess societal, health, legal and cultural issues with competency in professional engineering practice.

PO 7. Demonstrate professional skills and contextual reasoning to assess environmental/societal issues for sustainable development.

PO 8. Demonstrate Knowledge of professional and ethical practices.

PO 9. Function effectively as an individual, and as a member or leader in diverse teams, and in multi-disciplinary situations.

PO 10. Communicate effectively among engineering community, being able to comprehend and write effectively reports, presentation and give / receive clears instructions.

PO 11. Demonstrate and apply engineering & management principles in their own / team projects in multidisciplinary environment.

PO 12. Recognize the need for, and have the ability to engage in independent and lifelong learning.

PSO 1. Apply the knowledge of technological evolutions, model / characterize devices and design the integrated circuits to build analog and digital systems. (Program Specific)

PSO 2. Understand and apply the fundamentals of communication and signal processing to develop systems wrapped with industry standard protocols and standards. (Program Specific)

## 1.6. FACILITIES & INFRASTRUCTURE

- Analog & Digital Communication Lab
- Integrated Circuit & Pulse Digital Circuits Lab
- Electronic Device Circuits Lab
- Microwave & Optical Communication Lab
- Microprocessor & Micro Controller Lab
- ECAD Lab
- Basic Electronics Lab
- Digital Signal Processing Lab

## 1.7. MAJOR COURSES

- Digital Signal Processing
- Radar Engineering
- Computer Organisation
- Electronic Devices and Circuits
- Analog and Digital Circuits
- Microwaves

- VLSI
- Satellite Communication
- Cellular Mobile Communication
- Optical Communication
- Management Science
- Pulse & Digital Circuits and Integrated Circuits
- Electromagnetic Waves
- Antennas
- Microprocessors
- Digital Image Processing
- Embedded Systems Design and IoT
- RTL coding Techniques
- ASIC verification using system Verilog
- Electronics for Agriculture

## ISTE EVENTS:

- **Tech wars:** conducted on 14/09/2024
- This event is all about Debate conducted on general topics . the event was held at ECE Block ECE SEMINAR HALL, with a total no of participants day wise given below.
- **Participants**: Event was conducted by 74 participants.
- The event was interactive and lively. The event was conducted successfully.



## IETE EVENTS:

- **Technogoal Championship:** conducted on 25/09/2023.
- In this event one ball is placed at center of the GMR logo and the robots are driven by the participants the participants who touched and pushed the ball first they are selected for the next round minimum of 5 members selected for next round . the next round is time limited round which robot came first that robot was the winner and who came second is the that robot got the 2nd prize
- **Participants**: The event was attended by **22** participants.
- The event was engaging and vibrant, successfully achieving its objectives.



## IE(I) EVENTS:

- **Click and claim**: Conducted on 13/09/23
- This event is all about to subject related questionaries.
- Participants are displaying the questions and they had to click the buzzer and claim the points.
- Judges are assessing their subject knowledge.
- Judges evaluate their performance based on:
- Accuracy (how fast they reacted for the questions).
- Fluency (speed and smoothness)
- Time (completing the answering within a set timeframe)

- **Participants**: Event was conducted by 34 participants.
- This event was conducted successfully.


# 3. FACULTY PUBLICATIONS & ACHIEVEMENTS

## JOURNAL PAPERS

- Shahi, A. K., Ravi Shankar, B. K. Pandey, and R. Gopal. "Temporal-dependent photoconductivity of Cd@ ZnS microspheres." *Materials Research Innovations* 28, no. 3 (2024): 184-190.
- Sharma, Harish Dutt, Yogesh Misra, Sumit Kumar, and B. Madhav Rao. "Expanding an Education-based Collision Detection System Created on Virtual Reality and Augmented Reality." *International Journal of Interactive Mobile Technologies* 17, no. 17 (2023).
- Prabhakar Telagarapu, . "Exponential gannet firefly optimization algorithm enabled deep learning for diabetic retinopathy detection." *Biomedical Signal Processing and Control* 87 (2024): 105376..
- Sudhakar, A., T. V. S. Divakar, and T. Prabhakar. "Design of E-shaped microstrip antenna for WBAN applications." *AIP Conference Proceedings*. Vol. 2794. No. 1. AIP Publishing, 2023.
- Singh, Sooryansh, Yogesh Mishra, et al. "IoT based water quality monitoring system." *IRFIC* (2016).

## CONFERENCE PAPER

- Telagarapu Prabhakar has presented a paper “Prediction of Chronic Diseases Using Machine Learning Algorithms” via online/offline at International Conference on Advances in Technologies and Applications for Sustainability (ICATAS - 2023) organized by GMR Institute of Technology, Rajam, Andhra Pradesh, India during 5th - 6th July 2024.
- A .Sudhakar has presented a paper “Design of "T" Shaped Slotted Microstrip Antenna with Truncated Corners for WLAN/C Band/X Band Applications” via online/offline at IEEE international conference on Multi disciplinary Research in Technology and Management organized by GMR Institute of Technology, Rajam, Andhra Pradesh, India during 5th - 6th July 2024.
- Telagarapu prabhakar, et al. "Retinal Blood Vessel Segmentation for Diagnosis of Diabetic Retinopathy." International Conference on Advances in Technologies and Applications for Sustainability (ICATAS - 2023) .
- T.V.S.Divakar has presented a paper "Design of E-Shaped Microstrip Antenna for WBAN Applications" International Conference on Advances in Communications, Computing & Electronic Systems (ACCES-2022).
- T.V.S.Divakar has presented a paper “Prediction of Chronic Diseases Using Machine Learning Algorithms” via online/offline International Conference on Advances in Technologies and Applications for Sustainability (ICATAS - 2023) organized by GMR Institute of Technology, Rajam, Andhra Pradesh, India during 5th - 6th July 2024.

## ONLINE COURSES

- Dr. A .Sudhakar successfully completed all courses and received passing grades for a Professional Certificate in NPTL Introduction to Machine Learning from NPTL.

## PATENTS

- In pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of Dr. A.Sudhakar in respect of the application of such design to Machine Learning based Microstrip Patch Antenna Parameter Prediction Model: Version: 01-09-2023
- In pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of Dr. Ravi Shankar Saxena in respect of the application of such design to: Artificial Intelligence-Based Framework for Automatic Sentence Generation in Multiple Languages: Version: 15-09-2023.
- In pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of Dr.J.V.Suman in respect of the application of such design to: Block Chain based Microprocessor: 01-09-2023.